

Application No. 10/812,640
Response dated December 10, 2007
Response to Office Action dated September 20, 2007

REMARKS

Claims 2, 4-21, and 23-25 are pending with claims 4, 5, 7-10, 14, 15, 18-20, and 23-25 having been previously withdrawn from consideration based upon applicant's selection of Species II which is represented by Figs. 4-5(c). Accordingly, claims 1, 2, 6, 11-13, 16, 17, and 21 are at issue.

The objection to the claims is addressed by an appropriate correction to claim 12 herein.

Claims 1, 2, 6, 11, and 21 are rejected under 35 U.S.C. §112, second paragraph, as indefinite.

The rejection is respectfully traversed.

The recitation of "the one material panel" in claim 1 is alleged to lack proper antecedent basis. However, in line 11 of claim 1, "one of the material panels" is recited, which provides antecedent basis for the subsequently recited "one material panel." Similarly, the recited "one material panel" in claim 6 also has the same antecedent basis as set forth above with respect to claim 1. In claim 21, the recitation of "the other airbag chamber" is alleged to lack proper antecedent basis. However, in line 12 of claim 21 "another elongate airbag chamber" is recited providing antecedent basis for the subsequently recited "the other airbag chamber" of claim 21. It is noted that the recited word "another" is simply the merger of the two words " an" and "other" so that it provides proper antecedent basis for the subsequently recited "the other airbag chamber" of claim 21. Accordingly, it is believed the indefiniteness rejections of claims 1, 6 and 21 are obviated.

Claims 1, 2, 6, 11-13, 16 and 17 are rejected under 35 U.S.C. §103(a) as unpatentable over WO 02/079009 to Hamada et al. in view of U.S. Patent No. 6,364,348

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to Jang et al. Claim 21 is rejected under 35 U.S.C. §103(a) as unpatentable over Jang et al. in view of Hamada et al.

The rejections, as they may apply to the claims presented herein, are respectfully traversed.

Claim 1 is directed to a elongate airbag including an airbag body having a generally elongate, narrow tubular configuration upon inflation thererof and a pair of elongate chambers in the airbag body that are inflated to extend in a longitudinal direction in the tubular airbag body. A pair of material panels of the airbag body are each formed into an elongate configuration extending in the longitudinal direction with one of the material panels defining one of the elongate chambers independent of the other material panel and the material panels cooperating to completely form the other elongate chamber. One portion of the one material panel extends in the longitudinal direction centrally between the chambers and acts to tether the airbag. As amended, claim 1 calls for the chambers to have a mirror-image, symmetrical configuration to each other on either side of the one panel portion upon inflation thereof. Amended claim 1 further requires at least one vent port in the one panel portion, and a duct connected to only one or the other of the elongate chambers for directing inflation gas therein. None of the relied upon art, either alone or in combination, discloses or suggests the mirror-image, symmetrically configured elongate airbag chambers and the duct connected to only one or the other of the elongate chambers for directing inflation gas therein, as called for in amended claim 1.

More particularly, Hamada et al. are relied upon for disclosing an airbag body 22 having a general elongate, narrow tubular configuration and including a pair of chambers in the airbag body and a cloth 22C that extends in the longitudinal direction and acts to tether the airbag limiting inflation thereof in a direction transverse to the

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longitudinal direction. However, in Fig. 5 of Hamada, it can be clearly seen that the corresponding chambers on either side of the cloth 22C do not have a mirror image, symmetrical configuration to each other, as required in amended claim 1. In fact, Hamada et al. are very specific in this departure. In this regard, Hamada et al. teach that the airbag body 22 is inflated so that it expands by a limited amount in the outer lateral direction indicated by arrow C in Fig. 5 so that the airbag body 22 also expands toward the inner lateral direction indicated by arrow B in Fig. 5 (see page 13, line 10 - page 14, line 9). Accordingly, Hamada et al. show that the elongate chamber on the right in Fig. 5 extends below the elongate chamber on the left hand side for engaging with the deployment portion 30A of the garnish panel 30. More specifically, it can be seen that the outer airbag wall of the right hand chamber is attached to the cloth 22C at a position much lower than the attachment of the airbag wall for the left hand chamber, whereas the upper attachments of both airbag walls are at approximately the same position along the cloth 22C. As such, Hamada et al. specifically teach away from having a mirror image, symmetrical configuration for their corresponding airbag chambers on either side of the cloth 22C, as required in amended claim 1.

Jang et al. do not cure the above noted deficiencies of Hamada et al. with respect to amended claim 1. Like Hamada et al., the airbag 500 of Jang et al. does not have a pair of elongate chambers with a mirror image, symmetrical configuration to each other on either side of the tether 541, as required in amended claim 1. Instead, in Fig. 6 of Jang et al. it can be seen that the lower chamber 505 is enlarged relative to the upper chamber 504 via an extension provided for receipt of the inflator assembly 400 therein.

In addition, Hamada et al. only disclose that inflator 20 is secured at one end of the airbag body 22, as shown in Fig. 3. However, claim 1 specifies that there is a duct connected to only one or the other of the elongate chambers for directing inflation gas

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therein. There is no teaching or suggestion by Hamada et al. that there be a duct corresponding to that recited in amended claim 1. In fact, since Hamada et al. do not disclose or suggest a vent port in the cloth 22C, they likewise do not disclose or suggest a duct that is connected to only one or the other of the corresponding airbag chambers, as required in amended claim 1. Accordingly, it is believed claim 1, and claims 2, 6 and 11 which depend therefrom, are allowable over the relied upon art.

Claim 12 is directed to an elongate airbag including an airbag body having a generally elongate, narrow tubular configuration upon inflation thereof. The airbag body has an elongate internal space that is inflated upon airbag deployment to extend in a longitudinal direction in the generally elongate, tubular airbag body. At least one elongate material panel of the airbag body extends at least partially about the internal space. At least one elongate tether panel extends in a longitudinal direction and divides the internal space into at least two elongate chambers that both extend in the longitudinal direction. A plurality of vent holes are spaced longitudinally from each other in the longitudinal direction along the elongate tether panel. A plurality of projections of the material panel are spaced longitudinally from each other in the longitudinal direction along the elongate material panel with each of the projections having an aperture for receiving a fastener for fixing the airbag to a vehicle pillar with the fasteners prior to airbag deployment. As amended, claim 12 calls for a cylindrical duct in communication with only one of the elongate chambers for directing inflation gas therein and formed by the material panel so as to extend orthogonally to the longitudinal direction and spaced longitudinally from the material panel projections. None of the relied upon art, either alone or in combination, discloses or suggests the elongate airbag including the plurality of longitudinally spaced projections and the

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cylindrical duct spaced longitudinally from the projections, as called for in amended claim 12.

More particularly, in the Action it is acknowledged that Hamada et al. only disclose attachment portion 22A of the airbag body 22 rather than the recited plurality of projections spaced longitudinally from each other with each of the projections having a fastener receiving aperture. Instead, Hamada et al. specifically teach that the attachment portion 22A is welded to the base plate 32 of the airbag case 24. Hamada et al. also disclose that the airbag case 20 is bolted to the front pillar immediately below the attachment portion 22A, as can be seen in Fig. 5. Given the airbag and case mounting arrangements taught by Hamada et al., it is unlikely one skilled in the art considering all of the teachings of Hamada et al. would modify the attachment portion 22A as suggested in the Action. More specifically, modifying the attachment portion 22A to be a plurality of longitudinally spaced projections that each have an aperture for receiving a fastener would not be workable since there is insufficient space for a fastener above the bolt 34 and nut 46 used to secure the airbag case 24 to the front pillar outer panel 38 as taught by Hamada et al.

In addition, Hamada et al. do not disclose or suggest the recited cylindrical duct that is in communication with only one of the elongate chambers. As previously discussed and as acknowledged in the Action, Hamada et al. do not disclose the recited vent holes in the tether panel. Because Hamada et al. fail to disclose vent holes in the cloth 22C, they would not contemplate having a duct for inflation gas that is only in communication with one of the elongate chambers, as called for in amended claim 12. Further, since Hamada et al. fail to disclose the recited projections as discussed above, it is manifest that Hamada et al. also fail to disclose a cylindrical duct that is spaced longitudinally from such projections, as required in amended claim 12. Finally,

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referencing Fig. 3 of Hamada et al., it can be seen that the inflator 20 is oriented to extend substantially parallel to the elongate airbag body 22 so that the lower portion of the airbag body 22 connected to the inflator 20 does not extend orthogonally to the longitudinal direction, as required in amended claim 12.

Jang et al. is relied upon for their disclosure of tether 541 including the vent slits 542 therein. As such, Jang et al., like Hamada et al., fail to disclose a plurality of projections spaced longitudinally from each other in the longitudinal direction with each projection having an aperture for receiving a fastener along with a cylindrical duct that is spaced longitudinally from the projections and which extends orthogonally to the longitudinal direction. Instead, the airbag cushion 500 of Jang et al. has the side extension of the lower chamber 505 into which the inflator assembly 400 is fit with bolt holes 555 and 557 along either side of the extension. As shown in Fig. 6, the extension does not have a cylindrical configuration, is not spaced longitudinally from apertured projections, and does not extend orthogonally to the longitudinal direction, as required in amended claim 12. Accordingly, claim 12, and claims 13, 16 and 17 which depend cognately therefrom, are believed allowable over the relied upon art.

Claim 21 is directed to a method of forming an airbag and is amended to call for folding one material panel about a first longitudinally extending axis, attaching one longitudinally extending edge to an opposite longitudinally extending edge of the one material panel to completely form an elongate airbag chamber having an elongate configuration extending in a longitudinal direction with the one material panel.

Amended claim 21 further recites attaching one longitudinal extending edge of another material panel to an intermediate, longitudinally extending portion of the one material panel, folding the other material panel about a second longitudinally extending axis parallel to the first longitudinally extending axis, and attaching an opposite

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longitudinally extending edge of the other material panel to at least one of the attached longitudinally extending edges of the one material panel. Amended claim 21 further calls for tethering the airbag with a portion of the one material panel extending in the longitudinal direction between the airbag chambers to limit inflation thereof in a direction transverse to the longitudinal direction with the material panel portion being formed between the intermediate, longitudinal extending portion and the attached longitudinally extending edges of the one material panel adjacent to the other material panel. None of the relied upon art, either alone or in combination, discloses or suggests the method of forming an airbag as recited in amended claim 21.

More particularly, Jang et al. teach that the first and second panels 540 and 550 are stitched along the seams 508 that extend along either side of the tether 541 in the middle portion of the panel 540, as can be seen in Fig. 10. Thereafter, the panel 540 is folded in an upward vertical direction and the two panels 550 are each folded downward and toward each other in a butterfly manner, as described by Jang et al at col. 7, lines 58-67 and as shown in Fig. 11. The two lower panels 550 are then attached via seam 547. Thus, Jang et al. do not disclose or suggest attaching an opposite longitudinally extending edge of the other material panel to at least one of the attached longitudinally extending edges of the one material panel, as called for in amended claim 21. Instead, Jang et al. teach that the edges of the airbag panel 540 are attached together, and the free edges of each of the panels 550 are attached together, and not to either of the attached edges of the material panel 540. Further, claim 21 requires that the airbag be tethered with a portion of the one material panel that is formed between the intermediate longitudinally extending portion and the attached longitudinally extending edges of the one material panel adjacent to the other material panel. By contrast, Jang et al. disclose that the tether 541 is formed at a central portion of the panel

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540 so that it is not between the attached edges of the panel 540 at the upper end of the airbag cushion 500 and the corresponding intermediate extending portion, as required by amended claim 21. Hamada et al. do not cure the above noted deficiencies of Jang et al. as they are completely silent with respect to their method of forming the airbag body 22. Accordingly, it is believed that claim 21 is allowable over the relied upon art.

Based on the foregoing, reconsideration and allowance of claims 1, 2, 6, 11-13, 16, 17, and 21 are respectfully requested.

Respectfully submitted,

By: /Stephen S. Favakeh/

Stephen S. Favakeh

Registration No. 36,798

Date: December 10, 2007

FITCH, EVEN, TABIN & FLANNERY

120 South LaSalle, Suite 1600

Chicago, Illinois 60603-3406

Telephone: 312/577-7000

Facsimile: 312/577-7007